

REMARKS

This Response and the Hirst Declaration are being submitted to supplement the arguments set forth in the February 7th Response. This submission follows a teleconference between Lynn Hunsberger, a colleague of the undersigned, and the Examiner, during which the Examiner indicated she would entertain the supplemental response if timely filed before her consideration of the February 7th Response. The undersigned wishes to thank the Examiner for her willingness to consider the submission.

Claims 33 and 47 were amended in the February 7th Response to correct typographical errors. No additional amendments are being made to the claims and no new subject matter is being introduced with this submission. Claims 1-23, 36, 39, 48-52 and 58-60 were previously canceled. Claims 24-35, 37-38, 40-47, 53-57 and 61-63 are currently pending.

Claims 24-29, 31-34, 37-38, 40-43, 45-47, 53-56 and 61-63 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,744,993 ("Bisson").

Claims 30 and 44 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bisson in view of U.S. Patent No. 3,989,853 ("Forkner").

Applicant respectfully requests that the Hirst Declaration and accompanying arguments be considered in addition to the arguments presented in the February 7th Response.

Independent Claim 61 and Dependent Claims 24-35 and 53-55

Bisson does not teach or suggest, among other things, "passing an expanded foodstuff composition, which is in a plastic state and is therefore capable of further expansion or contraction, at a first temperature and a first pressure into a setting region at a second temperature, said second temperature being lower than said first temperature; and cooling and setting said expanded foodstuff composition which is to be set in the setting region at a second pressure which is lower than said first pressure, whereby to produce a set expanded foodstuff."

Bisson discloses

"a process for the preparation of a casein-based dry puffed product..." Bisson, column 1, lines 6-7. "For puffing, the paste-like material issuing from the nozzle bores is passed into an enclosure where a sub-atmospheric pressure prevails. Under the effect of the decompression, part of the water present in this material, i.e., around 40 to 50%, is evaporated while its temperature suddenly falls which

causes its puffing and the rigidification of the cellular structure produced. The degree of puffing will depend on the dry matter content of the material entering the extruder and on the level of the vacuum prevailing in the puffing enclosure.” Bisson, column 3, lines 21-30.

“The temperature reached by the material in the extruder is also a critical factor in the process according to the invention. It should be high enough to impart to the material the plasticity required for passing smoothly through the bores in the nozzle, i.e., 30° - 70° C. in the barrel and 40° - 100° C. in the nozzle, the lower values of these ranges being preferred, although 100° C. is the upper limit beyond which the casein loses its functional and nutritional properties and the grains take on an unacceptable hardened appearance after their puffing.” Bisson, column 2, line 62 to column 3, line 3.

“The exit pressure at the nozzle may be from 9.8 to 15.7 MPa (100 to 160 kg/cm²) and preferably from 14.7 to 15.7 MPa (150 to 160 kg/cm²). Bisson, column 3, lines 13-15.

As a basis for rejecting claim 61, the Examiner recites “that the paste [in Bisson] has a certain temperature because the material is heated inside the extruder; this is equivalent to the first temperature. As the paste exists [sic] the extruder, it comes out; thus, the pressure is changed to atmospheric pressure. This is equivalent to the first pressure. ... As the material exists [sic] the extruder, the composition would still have the temperature it is heated to inside the extruder because no cooling takes place. The paste is then passed into an enclosure where a subatmospheric pressure prevails. This is equivalent to the claimed setting region. It would have been obvious to make the temperature here lower because Bisson et al disclose the temperature falls to cause puffing and rigidification of the cellular structure.” Office action at Page 3, ¶ 1. According to the Examiner, Bisson’s paste is extruded into a region of atmospheric pressure (P_1) at temperature T_1 and passed into an enclosure at subatmospheric pressure (P_2) and temperature T_2 , where T_2 is lower than T_1 .

As noted in the February 7th Response, “[i]t is ‘highly improbable’ that Bisson extrudes ‘into an atmospheric pressure region with subsequent passage through the sub-atmospheric

environment/chamber’ as suggested by the Examiner.” The February 7th Response, page 7, ¶ 2 (quoting the Dunn Declaration at pp. 2-3, ¶ 5). “Extrusion is commonly carried out at high temperatures and pressures so that upon exiting the extrusion die, the extrudate experiences a rapid drop in pressure and any water present is released as super-heated steam. This is what gives rise to puffing or expansion.” The Hirst Declaration at ¶ 6. “In Bisson, the temperature and pressure are relatively low, such that only minimal expansion would occur if extruding into atmospheric pressure. For this reason Bisson extrudes into a vacuum chamber where the expansion takes place.” *Id.* at ¶ 7.

It is “highly unlikely” that Bisson is extruding his paste “into a region of atmospheric pressure with the product then being transferred to the vacuum chamber ... because (i) the pressure differential between the atmosphere and the vacuum chamber is less than the pressure differential between the extruder and the vacuum chamber, so puffing would be less efficient, (ii) once the product exits the extruder it begins to cool and harden, both effects leading to less efficient puffing, [and] (iii) the apparatus would be more complicated, requiring an additional conveyor and airlock at the upstream end of the vacuum chamber.” *Id.* at ¶ 8. Therefore, “Bisson is extruding directly into the vacuum chamber.” *Id.* at ¶ 8.

Consequently, independent claim 61 and dependent claims 24-35 and 53-55 are allowable. Allowance of these claims is respectfully requested.

Independent Claim 62 and Dependent Claims 37-38, 40-47 and 56

For the same and similar reasons presented with respect to claim 61 and for the reasons presented in the Hirst Declaration, Bisson does not teach or suggest, among other things, “passing a foodstuff composition which is in at least a partially expanded condition and in a plastic state and is therefore capable of further expansion or contraction and which contains a vaporisable expanding agent, at a first temperature and a first pressure into a setting region at a second temperature, said second temperature being lower than said first temperature; and cooling and setting said foodstuff composition which is to be set in the setting region at a second pressure which is lower than said first pressure so as to further expand the foodstuff composition by evaporation of the vaporisable expanding agent and produce a set expanded foodstuff.”

Consequently, independent claim 62 and dependent claims 37-38, 40-47 and 56 are allowable. Allowance of these claims is respectfully requested.

Independent Claim 63 and Dependent Claim 57

For the same and similar reasons presented with respect to claim 61 and for the reasons presented in the Hirst Declaration, Bisson does not teach or suggest “passing a foodstuff composition which is in at least a partially expanded condition and in a plastic state and is therefore capable of further expansion or contraction and which contains a vaporisable expanding agent, at a first temperature and substantially atmospheric pressure into a setting region at a second temperature, said second temperature being lower than said first temperature; and cooling and setting said foodstuff composition which is to be set in the setting region at a pressure which is lower than atmospheric pressure so as to further expand the foodstuff composition by evaporation of the vaporisable expanding agent and produce a set expanded foodstuff.”

Consequently, independent claim 63 and dependent claim 57 are allowable. Allowance of these claims is respectfully requested.

CONCLUSION

In view of the foregoing and the arguments presented in the February 7th Response, claims 24-35, 37-38, 40-47, 53-57 and 61-63 are allowable. Reconsideration and allowance of claims 24-35, 37-38, 40-47, 53-57 and 61-63 are respectfully requested. The Examiner is encouraged to contact the undersigned at the number listed below with any questions.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Gregory J. Hartwig', with a stylized flourish at the end.

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